

# Chun-Hsiang Chan

SPATIAL DATA SCIENTIST · PH.D.

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CHUN-HSIANG CHAN

*"I always aim to overcome my limitations."*

## Education

### National Taiwan University (NTU)

Taipei, Taiwan

PH.D. IN GEOGRAPHY

Sep. 2015 - Jul. 2021

- **GPA:** 4.12/4.3 (76)
- Research topics focus on spatiotemporal network analysis, spatial data mining, spatial statistics, complex network analysis, big data analysis, and machine learning.

### Shih Chien University (USC)

Taipei, Taiwan

M.S., DEPARTMENT OF FOOD SCIENCE, NUTRITION, AND NUTRACEUTICAL BIOTECHNOLOGY

Sep. 2018 - 2020

- **GPA:** 4.0/4.0 (30)
- Research topics focused on the effects of ultrasonic treatment on physical properties and *in vitro* digestibility of high amylose maize starch.

### National Taiwan University (NTU)

Taipei, Taiwan

M.S., DEPARTMENT OF GEOGRAPHY

Jan. 2013 - 2015

- **GPA:** 3.75/4.3 (31)
- Research focused on the analysis of seismic signals and earthquake precursor recognition.

### National Taipei University of Education (NTUE)

Taipei, Taiwan

B.SOC.SCI., DEPARTMENT OF SOCIAL AND REGIONAL DEVELOPMENT

Sep. 2008 - 2012

- **GPA:** 3.79/4.3 (174)
- Research topic focused on establishing debris-flow cluster and modified critical rainfall line.

## Experience

### Department of Radiology, School of Medicine, Taipei Medical University

Taipei, Taiwan

POSTDOCTORAL RESEARCH / DEPARTMENT OF RADIOLOGY, TAIPEI MUNICIPAL WANFANG HOSPITAL, TAIPEI MEDICAL UNIVERSITY

2021 - Present

- Establish an open-source automated bone mineral density report generator to reduce manual errors and accelerate efficiency of report production process.
- Demonstrate the differences between dual-energy X-ray absorptiometry and computed tomography for compression fracture detection in clinical practice.
- Analyze the trabecular microstructure by using high-resolution computed tomography.

### School of Journalism and Communication, The Chinese University of Hong Kong

Hong Kong, China

DATA SCIENTIST / A JOINT BUSINESS PLANNING ON SOCIAL MEDIA MARKETING

2019 - Present

- Collect a massive amount of social media engagement and behavior data on Facebook through web crawlers and process the bias data and unknown issues for further analysis.
- Through a case study of Taiwan's top restaurant brand, we discussed whether the changes in user engagement behavior during the COVID-19 pandemic are reversible or irreversible.
- Present the impact of activity announcement posts on post-, comment-, and share-level engagement between 2019 and 2020.
- Demonstrate the relationship with time series reservations through social media engagement.

### Institute of Sociology, Academia Sinica

Taipei, Taiwan

DATA SCIENTIST

2019 - Present

- Spatiotemporal analysis of religious landscape in Taipei: reveal the preference of religious site selection from 17th to 21st century.
- Social network analysis on Taiwanese traditional religion: retrieve the interaction and relationship between temple and temple.

## Department of Geography, NTU

Taipei, Taiwan

RESEARCH ASSISTANT & TEACHER ASSISTANT / GEOSPATIAL COMPUTATIONAL SCIENCE LABORATORY

2019 - 2021

- Conduct mHealth concept to develop a real-time airport exposure risk for COVID-19 mobile application with network proximity effects.
- Apply social network analysis and spatial statistics to reveal the characteristics of COVID-19 transmission during large-scale city lockdown.
- Apply survival analysis, social network analysis, and community detection to evaluate the relationship of H1N1 transmission via air transportation.

## Department of Geography, NTU

Taipei, Taiwan

RESEARCH ASSISTANT & TEACHER ASSISTANT / REMOTE SENSING AND SPATIAL KNOWLEDGE LABORATORY

2013 - 2021

- Work on airline alliance market analysis via the data-driven method, classification for the global market characteristics, quantitative evaluation for collaborative, dominant, and competitive relationships.
- Work on geological investigation, electromagnetic signal analysis, electric experiment design, earthquake database system construction, and earthquake precursor pattern recognition.
- Apply artificial intelligence (AI) in seismic analysis and automatic seismic and stratum pattern recognition.

## CyberSecurity Technology Institute, Institute for Information Industry (III)

Taipei, Taiwan

DATA SCIENTIST ENGINEER / ANALYTICAL INTELLIGENCE SECTION, ARTIFICIAL INTELLIGENT RESEARCH AND DEVELOPMENT CENTER

2017 - 2019

- Conduct a generative adversarial network (GAN) to learn the characteristics of malware behavior for malware detection.
- Survey about the indicators of compromise (IOC-related) information and papers, and reproduce the journal article program for application.
- Build cybersecurity monitor system via Python, Elasticsearch, Logstash, and Kibana (Py+ELK) to instantly catch the internet log files, parse and analyze data, export into database, and then visualize all data into the dashboard.
- Focus on the air pollution project from the Chinese Petroleum Corporation (CPC), especially in spatiotemporal data preprocessing and time-series causality analysis.

## Department of Social and Regional Development, NTUE

Taipei, Taiwan

RESEARCH ASSISTANT & TEACHER ASSISTANT / DEBRIS-FLOW DISASTER PREVENTION LABORATORY

2013 - 2016

- Analyze vector/raster dataset for debris-flow and potential landslide area.
- Work on hydrological analysis, spatiotemporal statistical analysis, spatiotemporal data visualization, disaster prevention platform design for Android APP and website, and APP marketing
- Teach tutorial section of Geographic Information System (GIS)

## National Science and Technology Center for Disaster Reduction (NCDR)

Taipei, Taiwan

RESEARCH INTERN / SLOPELAND DIVISION

2011 - 2011

- Utilized Geographic Information System (GIS, ArcMap), for spatial data analysis of the debris-flow watershed area, especially for remote sensing image processing.

## Department of Chemistry, NTU

Taipei, Taiwan

PROJECT STUDENT / JTC ORGANOMETALLIC RESEARCH LABORATORY

2010 - 2012

- Synthesize and characterized - ligands to complexes  $[(o-C_5H_4N)C(CH_3)(R_1)NR_2]AlMe_2$
- Characterize organometallic precursors by NMR techniques and X-Ray crystallography showing distorted tetrahedral structures.
- Catalyze ring-opening polymerization of  $\epsilon$ -caprolacton-caprolactone with the activities and the  $M_n$  values.
- Display the electronic and steric properties of distinct ligand influences toward molecular weight and PDI values.

## Department of Social and Regional Development, NTUE

Taipei, Taiwan

UNDERGRADUATE INTERN STUDENT / DEBRIS-FLOW DISASTER PREVENTION LABORATORY

2010 - 2012

- Utilize Geographic Information System (GIS, ArcMap) for spatial data analysis of the debris-flow watershed area.
- Adopt K-means clustering to gather similar debris-flow streams as a group.
- Define the critical rainfall line of each debris-flow stream group by nonlinear support vector machine (SVM).

## Thesis

2021	<b>Ph.D. Thesis</b> , Characterizing Major Airline Alliances: A Network Analysis. <i>Department of Geography, National Taiwan University</i>	Taipei, Taiwan
2020	<b>Master Thesis</b> , Effects of Ultrasonic Treatment on Physical Properties and <i>in vitro</i> Digestibility of High Amylose Maize Starch. <i>Department of Food Science, Nutrition, and Nutraceuical Biotechnology, Shih Chien University</i>	Taipei, Taiwan
2015	<b>Master Thesis</b> , Applying Ultra Low Frequency Remote Sensing Techniques in the Earthquake Precursor Analysis —Using Taiwan as an Example. <i>Department of Geography, National Taiwan University</i>	Taipei, Taiwan
2011	<b>Bachelor Thesis</b> , Ring-Opening Polymerization of $\epsilon$ -caprolactone Using Organoaluminum Complexes Bearing Amido-pyridine Bidentate Ligand. <i>Department of Chemistry, National Taiwan University</i>	Taipei, Taiwan
2011	<b>Bachelor Thesis</b> , Establishing Debris-Flow Cluster and Modified Critical Rainfall Line. <i>Department of Social and Regional Development, National Taipei University of Education</i>	Taipei, Taiwan

## Teaching Assistant

### NATIONAL TAIWAN UNIVERSITY (NTU)

2021	<b>Network Data Analysis and Models</b> , Department of Geography (Spring'21)	College of Science
2018	<b>Computer Programming</b> , Department of Geography (Spring'18)	College of Science
2017-2018	<b>Russian (I)</b> , Department of Foreign Languages and Literatures (Fall'17 to Spring'18)	College of Liberal Arts
2017-2018	<b>Russian (III)</b> , Department of Foreign Languages and Literatures (Fall'17 to Spring'18)	College of Liberal Arts
2017	<b>Russian (II)</b> , Department of Foreign Languages and Literatures (Spring'17)	College of Liberal Arts
2017	<b>Russian Listening Training</b> , Department of Foreign Languages and Literatures (Spring'17)	College of Liberal Arts
2016	<b>Medical Database Systems</b> , Institute of Biomedical Engineering (Fall'16)	College of Medicine
2014	<b>Special Topics in Spatial Information</b> , Department of Geography (Spring'14)	College of Science
2014	<b>Remotely Sensed Land Monitoring</b> , Department of Geography (Spring'14)	College of Science
2013	<b>Spatial Information Research Methods</b> , Department of Geography (Fall'13)	College of Science
2013	<b>Applying Spatial Information in Tourism Recreation</b> , Department of Geography (Fall'13)	College of Science

### NATIONAL TAIPEI UNIVERSITY OF EDUCATION (NTUE)

2015 & 2016	<b>Geographic Information System</b> , Department of Social and Regional Development (Spring'15 & '16)	College of Education
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### NATIONAL TAIWAN NORMAL UNIVERSITY (NTNU)

2018	<b>Data Mining</b> , Department of Computer Science and Information Engineering (Fall'18)	College of Science
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## Invited Talks

Jan., 2020	<b>Invited Speaker</b> , Characterizing Major Airline Alliances: A Network Analysis	Kyoto University
Feb., 2019	<b>Keynote Speaker</b> , 2019 Present Sociology under Big Data	Academia Sinica
Sep., 2014	<b>Keynote Speaker</b> , Define an Expectation for Your University Life	NTUE
Apr., 2014	<b>Keynote Speaker</b> , 2014 Disaster Prevention and Warning Application in APP Competition	TICC, Taipei

## Academic Service

SCI	<b>Reviewer</b> , International Journal of Health Geographics	Journal Article
SCI	<b>Reviewer</b> , Plos One	Journal Article
EI	<b>Reviewer</b> , International Journal of Web Based Communities	Journal Article

## Honors & Awards

### RESEARCH

2020	<b>The Second Prize</b> , 2020 Canada - Taiwan Bilateral Conference on Nutrition, Health, Benefit and Innovative Processing of Whole Grains and Pulses	<i>Taichung, Taiwan</i>
2019	<b>The Third Prize</b> , 2019 International Conference on Grain Industry Development and Annual Meeting of Taiwan Grain Industry Association (TGiA)	<i>Taichung, Taiwan</i>
2018	<b>Young Scientist Award</b> , 2nd CiC Students' Workshop: Driving Sustainable Development	<i>Tsukuba, Japan</i>
2014	<b>The First Prize</b> , The 15th Cross-Strait Symposium on Environmental Resources and Ecological Conservation	<i>Zhangjiajie, China</i>
2013	<b>The Second Prize</b> , The 14th Cross-Strait Symposium on Environmental Resources and Ecological Conservation	<i>Kunming, China</i>
2011	<b>The First Prize</b> , The 12th Cross-Strait Symposium on Environmental Resources and Ecological Conservation	<i>Nanchang, China</i>
2011	<b>Selected (Highest)</b> , Undergraduate Student Thesis Presentation in Class of 2012	<i>NTUE, Taiwan</i>

### COMPETITION

2014	<b>Third Prize</b> , 2014 Disaster Prevention and Warning Application in APP Competition	<i>Taipei, Taiwan</i>
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### SCHOLARSHIP AND GRANTS

2020	<b>NetSci-X 2020 Travel Grants</b> , NetSci-X 2020, Waseda University	<i>Japan</i>
2020	<b>College of Science Travel Grants for International Conference</b> , College of Science, NTU	<i>Taiwan</i>
2020	<b>Honorary Membership</b> , The Phi Tau Phi Scholastic Honor Society of the Republic of China	<i>Taipei, Taiwan</i>
2020	<b>Academic Excellence Award</b> , Department of Food Science, Nutrition, and Nutraceutical Biotechnology, USC	<i>Taipei, Taiwan</i>
2019-2020	<b>Grant for Ph.D. Candidates in the Humanities and Social Sciences to Write Doctoral Thesis</b> , Ministry of Science and Technology	<i>Taiwan</i>
2019	<b>College of Science Travel Grants for International Conference</b> , College of Science, NTU	<i>Taiwan</i>
2018-2019	<b>Presidential Award</b> , Department of Food Science, Nutrition, and Nutraceutical Biotechnology, USC (Fall'18, Spring'19)	<i>Taipei, Taiwan</i>
2018	<b>Travel Grants for 2018 Tsukuba Global Science Week</b> , NTU and Tsukuba University	<i>Taiwan</i>
2017-2018	<b>Graduate Student Representative of College of Science</b> , College of Science, NTU	<i>Taiwan</i>
2014	<b>Budget Supplement for Graduated Student Attending International Conference</b> , Ministry of Science and Technology	<i>Taiwan</i>
2010-2011	<b>Presidential Award</b> , Department of Social and Regional Development, NTUE (Spring'10, Fall'11)	<i>Taipei, Taiwan</i>

## Research Projects

### MINISTRY OF SCIENCE AND TECHNOLOGY

2019-2020	<b>PI/ Ph.D. Candidate</b> , Grant for Ph.D. Candidates in the Humanities and Social Sciences to Write Doctoral Thesis	Principal Investigator
2019-2020	<b>RA/ PM</b> , An Early Warning Framework for International Spread of Infectious Diseases -Assessing disease importation risk in Taiwan and East Asian regions	Participant
2016-2017	<b>RA</b> , Slope Land Disaster Risk Estimation for Mountain Region Community and Revegetation - Sediment Disaster Risk Evaluation and Adaptation Study in Isolated Community(I)	Participant
2015-2016	<b>RA</b> , Combine Crowd-Sourcing Disaster Information and Early Warning Technique for Real-time Interactive Disaster Information Platform - To Establish an Interactional Real-Time Debris-flow Disaster Information System and its extended (III)	Participant
2015-2016	<b>RA</b> , Slope Land Disaster Prevention System for Local Community - Combine Rainfall Information for Debris-flow Potential Region and Application (I)	Participant
2014-2015	<b>RA</b> , Combine Crowd-Sourcing Disaster Information and Early Warning Technique for Real-time Interactive Disaster Information Platform - To Establish an Interactional Real-Time Debris-flow Disaster Information System and its extended (II)	Participant
2013-2014	<b>RA</b> , Combine Crowd-Sourcing Disaster Information and Early Warning Technique for Real-time Interactive Disaster Information Platform - To Establish an Interactional Real-Time Debris-flow Disaster Information System and its extended (I)	Participant

### NATIONAL TAIPEI UNIVERSITY OF EDUCATION

2010	<b>RA</b> , Establishment and Promotion of Virtual Reality Education Platform for Ocean Environment Education	Participant
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### MINISTRY OF EDUCATION

2016	<b>PM</b> , The 14th International Senior High Schools Intelligent Ironman Creativity Contest	Participant
2013	<b>PM</b> , The 11th International Senior High Schools Intelligent Ironman Creativity Contest	Participant
2012	<b>PM</b> , The 10th International Senior High Schools Intelligent Ironman Creativity Contest	Participant

## Certifications, Skills & Interests

### LANGUAGES

**Chinese:** Native; **English:** Fluent; **Russian:** Conversant; **Japanese:** Beginning; **Spanish:** Beginning

### CERTIFICATIONS

Emergency Medical Technician: Level 1 (EMT1)  
 Certified Scanning Electron Microscopy Operator | Certified X-ray Diffraction Operator  
 Teaching Certificate for Elementary School | HACCP Quality Control (Primary & Advanced)  
 Tour Guide of General Examination and Tour Leader of General Examination  
 TBSA Certificate of Business Planning Proficiency (Elementary)  
 National Volleyball Referee (C) | Certified lifeguard and Certified Swimming Coach (Level B & C)

### TECHNICAL SKILLS

**Computer Science:** Python, Matlab, R, C#, JavaScript, jQuery, jQueryUI, Android Development, HTML, MySQL, Nodejs, AngularJS, MongoDB, Elasticsearch, Spark, Facebook APIs and Twitter APIs  
**Geography:** GIS (ArcGIS, QGIS, Super GIS), Spatial Statistics, Spatial Database, Complex Network Analysis, Gephi  
**Physics:** Signal Processing (in time sequence and frequency) and Electromagnetic Analysis  
**Food Chemistry:** Starch Science, Resistant Starch, Slowly Digestible Starch, *in vitro* Digestibility, SEM, XRD and HPSEC  
**Chemistry:** Organometallic synthesis, NMR, IR, HPLC, ESI-MASS and pH meter  
**Design:** Illustrator, Photoshop, Dreamweaver and Google SketchUp  
**Marketing:** Google Analysis, Facebook Marketing and Google Trend

### INTERESTS

Emergency Medicine, Chinese Medicine, Volleyball, Sport Science, Photography, Tourism, Web and Graphic Design

## Selected Publications

### Peer-Reviewed Journal Papers

- [1] **Chun-Hsiang Chan**, Wen-Chi Huang, Yi-Chien Lu, Hsing-Fen Hsiao, and Wing P. Chan (2021). BatchBMD as an Efficient and Accurate Dual-Energy X-ray Absorptiometry Report Generator. *Diagnostics*. Vol.11(12), 2403. <https://doi.org/10.3390/diagnostics11122403> (SCI IF: 3.706; Q2 45/167 in Medicine, General, and Internal)
- [2] **Chun-Hsiang Chan**, Tzai-Hung Wen (2021). Revisiting the effects of high-speed railway transfers in the early COVID-19 cross-province transmission in China. *International Journal of Environmental Research and Public Health*. Vol.18(12), 6394. <https://doi.org/10.3390/ijerph18126394> (SSCI IF: 3.390; Q1 32/171 in Public, Environmental & Occupational Health)
- [3] **Chun-Hsiang Chan**, Ri-Gui Wu, Yi-Yuan Shao (2021). The effects of ultrasonic treatment on physicochemical properties and *in vitro* digestibility of semigelatinized high amylose maize starch. *Food Hydrocolloids*. Vol.119, 106831. <https://doi.org/10.1016/j.foodhyd.2021.106831> (SCI IF: 9.147; Q1 5/74 in Applied Chemistry; Q1 5/144 in Food Science & Technology)
- [4] Wei-Hsian Chi, Fei-Ying Kuo, Chang-Hui Chi, Shi-Chiang Lin, **Chun-Hsiang Chan** (2021). Spatial-temporal Analysis of Pilgrimage Network of Mazu-temples in Yunlin and Chiayi County: A Study on Geographical Distribution of Pilgrimage Group. *Journal of Geographical Science*. Vol.98, 45-82. [https://doi.org/10.6161/jgs.202104\\_\(98\).0003](https://doi.org/10.6161/jgs.202104_(98).0003) (TSSCI)
- [5] **Chun-Hsiang Chan**, Tzu-How Chu, Jiun-Huei Protty Wu, Tzai-Hung Wen (2021, Jan). Spatially Characterizing Major Airline Alliances: A Network Analysis. *ISPRS International Journal of Geo-Information (IJGI)*. Vol.10(1), 38. <https://doi.org/10.3390/ijgi10010038> (SCI IF: 2.899; Q2 23/50 in Geography; Q2 76/162 in Computer Science)
- [6] Yuan-Fang Tsai, **Chun-Hsiang Chan**, Keng-Han Lin, Wen-Ray Su, Jinn-Chyi Chen (2017, Jun). New debris flow critical rainfall line setting via cluster analysis and support vector machine after the Chi-Chi huge earthquake. *2017 13th International Conference on Natural Computation, Fuzzy Systems and Knowledge Discovery (ICNC-FSKD)* (EI). 970-975.

### Peer-Reviewed Conference Papers

- [1] **Chun-Hsiang Chan**, Shih-Chia Wu (Jul, 2021) Reversible or irreversible user engagement behavior changes during COVID-19 pandemic: a case study of a top restaurant brand in Taiwan. *28th Annual BledCom Conference*, Bled, Slovenia.
- [2] **Chun-Hsiang Chan**, Ri-Gui Wu, Yi-Yuan Shao (Sep, 2020) Ultrasonic Treatment on Starch Granule Morphology and Physicochemical Properties of High Amylose Maize Starch. *2020 Canada - Taiwan Bilateral Conference on Nutrition, Health, Benefit and Innovative Processing of Whole Grains and Pulses*, Taichung, Taiwan.
- [3] 吳優、詹竣翔、邵貽沅 (2020 年 6 月) 探討超音波處理對半糊化之糯性玉米澱粉物性和消化性的影響。台灣農業化學會第 58 次會員大會。臺北·臺灣。
- [4] 吳優、詹竣翔、邵貽沅 (2020 年 6 月) 探討去支鏈、超音波和回凝處理對澱粉物性和消化性的影響。台灣農業化學會第 58 次會員大會。臺北·臺灣。
- [5] **Chun-Hsiang Chan**, Tzai-Hung Wen, Tzu-How Chu, Jiun-Huei Protty (Jan, 2020) Characterizing the roles of nodes in the global airline alliance network: Considering structure equivalence and geographic proximity. *NetSci-X 2020*, Tokyo, Japan.
- [6] **Chun-Hsiang Chan**, Ri-Gui Wu, Yi-Yuan Shao (Sep, 2019) Effect of pregelatinized temperature on the morphology and resistant starch of high amylose corn starch *2019 International Conference on Grain Industry Development and Annual Meeting of Taiwan Grain Industry Association (TGIA)*, Taichung, Taiwan.
- [7] Ri-Gui Wu, **Chun-Hsiang Chan**, Yi-Yuan Shao (Sep, 2019) Quality of Ningbo Rice Cake with Debranched Starch. *2019 International Conference on Grain Industry Development and Annual Meeting of Taiwan Grain Industry Association (TGIA)*, Taichung, Taiwan.
- [8] **Chun-Hsiang Chan**, Tzu-How Chu, Jehn-Yih Juang, Ching-Hao Mao, Shin-Ying Huang (Apr, 2019) Causal relationship on sulfur dioxide between stationary emission source and ambient air quality: A data-driven approach. *EGU General Assembly 2019*, Vienna, Austria.
- [9] **Chun-Hsiang Chan**, Tzu-How Chu, Jiun-Huei Protty Wu (Apr, 2017) Statistical Analysis of Very Low Frequency Electromagnetic Signal for Earthquake Precursor Anomalies. *EGU General Assembly 2017*, Vienna, Austria.
- [10] Yuan-Fan Tsai, **Chun-Hsiang Chan**, Yuan-Ning Chan (Jul, 2016) To Establish an Integrative Information System for Debris-Flow Disaster. *Asian Conference on Civil, Material and Environmental Sciences*, Hokkaido, Japan.
- [11] Yuan-Fan Tsai, **Chun-Hsiang Chan**, Yi-Ting Huang, Jie-Ming Guan, Cheng-Hsin Chang (Jun, 2016) Establishing Optimal YouBike Route Planning for Cuisine in Smart Phone Application. *Hong Kong International Conference on Social Science 2016*, Hong Kong.
- [12] 蔡元芳、詹媛甯、周煥傑、黃竹頤、林庚翰、詹竣翔 (2015 年 10 月)。跨平台整合之防災即時資訊網建置。第十九屆海峽兩岸水利科技交流研討會。上海·中國。
- [13] **Chun-Hsiang Chan**, Tzu-How Chu, Jiun-Huei Protty Wu (Jun, 2015) Earthquake Precursor Detection for Epicenter Spatial Analysis and Estimation. *International Conference on Earth Observations and Societal Impacts 2015 (ICEO&SI 2015)*, Kaohsiung, Taiwan.
- [14] Wen-Xiang Wang, Lan-Xiang Wang, Ting Jin, Li-Ting An, Hui-Ying Wang, Tzu-How Chu, **Chun-Hsiang Chan**, Rei-Yuan Wang (Jun, 2015) The Earthquake Precursor Detecting Method Applied in the 2011 Tohoku Earthquake. *International Workshop on Earthquake Preparation Process 2015 - Observation, Validation, Modeling, Forecasting - (IWEP2)*, Chiba, Japan.
- [15] Yuan-Fan Tsai, **Chun-Hsiang Chan** (Jun, 2015) To Establish an Interactional Real-Time Debris-Flow Disaster Information System and Extension. *6th International Conference on Debris-Flow Hazards Mitigation: Mechanics, Prediction and Assessment (DFHM6)*, Tsukuba, Japan.
- [16] 管潔明、黃翊婷、蔡元芳、詹竣翔 (2015 年 5 月) 微笑單車安全路線規劃應用於智慧型手持裝置美食 APP。第 19 屆臺灣地理國際學術研討會。臺北·臺灣。
- [17] 林庚翰、謝青恩、吳昊宸、蔡元芳、詹竣翔 (2015 年 5 月) MFAs 慢跑社群手持裝置 APP 之開發。第 19 屆臺灣地理國際學術研討會。臺北·臺灣。
- [18] 王瑞麟、蔡元芳、詹竣翔 (2015 年 5 月) 自行車停車空間規劃模式之建置-以台北市大安區為例。第 19 屆臺灣地理國際學術研討會。臺北·臺灣。
- [19] Yuan-Fan Tsai, **Chun-Hsiang Chan**, Chu-Yi Huang, Huan-Chieh Chou (Apr, 2015) Crowdsourcing oriented Ontology Applies in Instant Debris-flow Disaster Information Platform in Web and Smart Phone Application. *EGU General Assembly 2015*, Vienna, Austria.
- [20] **Chun-Hsiang Chan**, Tzu-How Chu, Jiun-Huei Protty Wu, Rui-Yuan Wang, Yi-Shiang Shiu (Jul, 2014) Establishing VLF Electromagnetic Monitoring System for Earthquake Precursors Analysis and Application. *The 15th Crossstrait Symposium on Environment*,

*Resource and Ecological Conservation*, Zhangjiajie, China.

- [21] Tzu-How Chu, Ruei-Yuan Wang, **Chun-Hsiang Chan**, Yi-Shiang Shiu (May, 2014) The Study on the Prediction of Earthquake Precursors in Taiwan by Using the Monitoring Systems of Low-Frequency Electromagnetic Wave. *The 9th Taipei International Digital Earth Symposium*, Taipei, Taiwan.
- [22] **Chun-Hsiang Chan**, Tzu-How Chu, Jiun-Huei Protty Wu (Apr, 2014) VLF Electromagnetic Signal Analysis in Seismic Epicenter Application. *2014 Association of American Geographers' Annual Meeting*, Tampa, Florida, United States.
- [23] Yuan-Fan Tsai, **Chun-Hsiang Chan**, Yu-Qian Zhang, Wan-Jou Lu, Chi-Chen Yeh (Mar, 2014) Taipei City Marketing Application in Smart Phone Application Operation and Design. *The 2nd International Symposium on Education, Psychology, Society and Tourism (ISEPST 2014)*, Tokyo, Japan.
- [24] **Chun-Hsiang Chan**, Yuan-Fan Tsai (Jun, 2013) Allocating reforestation areas for variation of soil erosion maximization: MCLP formulation and pre-emptive goal programming. *The 14th Cross-strait Symposium on Environment, Resource and Ecological Conservation*, Yunnan, Kunming, China.
- [25] Yuan-Fan Tsai, Yu-Lun Cheng, **Chun-Hsiang Chan** (Jun, 2012) Setting up the Critical Rainfall Line For Debris-flow Via Support Vector Machines. *The International Conference on Earth Observations and Societal Impacts 2012 (ICEO-SI 2012)*, Taipei, Taiwan.

### Books, Reports, and News

- [1] **[Book]** 金威澄、李正哲、李冠儒、詹竣翔、江承頤、曾毓媛、王立宏、吳連哲、廖德融、劉柏賢、沈祥茵 (2021 年 11 月 17 日) 當代英雄從台灣出發-台大學生的俄羅斯與後蘇聯行旅 (Герои нашего времени - С Тайваня в Россию и постсоветское пространство)。第 40-15 頁 & 第 138-143 頁臺北市：櫻桃園文化出版有限公司。
- [2] **[Article]** 詹竣翔 (2021 年 7 月 2 日) 臺大地理系 2021 年楊楠子人文學術講座：人口動態的前沿研究暨地理職涯發展的交流。國立臺灣大學理學院院刊第 48 期：國際交流。臺北市：國立臺灣大學理學院。https://bit.ly/3wsGSOH
- [3] **[Report]** 詹竣翔、邵貽沅 (2021 年 4 月 15 日) 參加 2021 年 ICBC 國際研討會-線上會議報告。第 7-11 頁臺北市：中華穀類食品工業技術研究所。
- [4] **[News]** 溫在弘、詹竣翔 (2020 年 4 月 27 日) 10 大關鍵圖表掌握新冠肺炎產經衝擊。天下雜誌。https://bit.ly/2PckaQF
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